WHAT IS CLAIMED:

1. A method for elimination of a liquid phase from at least one reaction vessel comprising:
   (a) positioning a plurality of reaction vessels containing a liquid or mixture of liquids in a holder on the perimeter of a centrifuge rotor in a tilted position with a tilt away from the axis of rotation; and
   (b) spinning the rotor of the centrifuge at a speed so that the liquid is expelled from said vessels.

2. A method according to claim 1 wherein the method of elimination is employed during solid-phase organic synthesis.

3. The method according to claim 2 wherein said solid-phase organic synthesis is synthesis of peptides.

4. The method according to claim 2 wherein said solid-phase organic synthesis is synthesis of nucleic acids.

5. The method according to claim 1, further comprising repeating steps (a) and (b), whereby an organic molecule is synthesized.

6. The method according to claim 1 wherein said reaction vessel comprises at least one microtiter plate.

7. A method according to claim 1, wherein said rotor comprises a plurality of holders.

8. A method according to claim 1 wherein said holder comprises at least one collection pocket having a volume sufficient to collect and retain any liquid expelled from said vessels.

9. A method according to claim 1 wherein said expelled liquid is collected in a waste reservoir connected to said centrifuge by a tube.

10. A method of synthesis of compounds, said method comprising:
   (a) providing a reaction vessel containing a first building block coupled to said vessel;
   (b) positioning said vessel in a holder on the perimeter of a centrifuge rotor;
   (c) adding a second building block to said vessel; and
   (d) spinning said rotor at a speed sufficient to expel said liquid from said vessel.

11. A method according to claim 10 wherein said reaction vessel is tilted away from the axis of

rotation.

12. A method according to claim 10 wherein said reaction vessel is part of a microtiter plate.

13. A method according to claim 10 further comprising repeating steps (c) and (d) whereby an organic moiety is synthesized.

14. A method according to claim 10 further comprising washing said solid support prior to adding additional building blocks.

15. A method according to claim 10 wherein said building blocks are amino acids.

16. A method according to claim 10 wherein said building blocks are nucleosides.

17. A method for separating at least two immiscible or partially miscible liquids comprising:
(a) positioning a plurality of reaction vessels containing said liquids in a holder on the perimeter of a centrifuge rotor; and
(b) spinning the rotor of the centrifuge at a speed such that the lower layer of the multiphase system is retained in a "pocket" of the vessels and the upper layer is expelled from said vessels.

18. The method of claim 17 wherein said plurality of reaction vessels comprise a microtiter plate.

19. The method of claim 17 wherein said rotor comprises a plurality of holders.

20. The method of claim 17 wherein said holder comprises at least one collection pocket having a volume sufficient to collect and retain any liquid expelled from said vessels.

21. The method of claim 17 wherein said upper layer is collected in a waste reservoir attached to said centrifuge with a tube.

22. The method of claim 17 wherein said holder holds said reaction vessels is in a tilted position toward the center of rotation.

23. The method of claim 22 wherein the angle of tilt is less than 25 degrees.

24. The method of claim 22 wherein said rotor is spun at a speed at which the centrifugal force on the radius corresponding to the vessels which are closest to the axis of rotation is substantially greater than the force of gravity, so that the lower layer of the multi-phase system fills the "pocket" of the

vessels and the upper layer of the multilayer system is expelled from the vessels.

25. The method according to claim 22, in which the rotor of the centrifuge is spun at a speed at which the centrifugal force on the radius corresponding to the reaction vessels closest to the axis of rotation is at least 20 x G.

26. The method according to claim 22, in which the rotor of the centrifuge is spun at a speed at which the centrifugal force on the radius corresponding to the reaction vessels closest to the axis of rotation is at least 5 to 300 X *G*.

27. An apparatus comprising a centrifuge comprising:

a) a rotor designed to hold reaction vessels at a tilt away from the axis of rotation; and

b) a waste reservoir connected to said centrifuge to hold liquids expelled from said reaction vessels.

28. An apparatus according to claim 27 wherein said waste reservoir is connected to said centrifuge with a tube.

29. An apparatus according to claim 27 wherein said rotor comprises a plurality of holders, each holder designed to hold at least one microtiter plate.

30. An apparatus according to claim 27 further comprising a liquid distribution system.

31. An apparatus according to claim 30 wherein said liquid distribution system is integrated into the centrifuge.

32. An apparatus according to claim 27 further comprising a computer.